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**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

TQ DELTA, LLC, Plaintiff,	§	
v.	§	
	§	JURY TRIAL DEMANDED
COMMSCOPE HOLDING COMPANY, INC., COMMSCOPE INC., ARRIS US HOLDINGS, INC., ARRIS SOLUTIONS, INC., ARRIS TECHNOLOGY, INC., and ARRIS ENTERPRISES, LLC, Defendants.	§	Civil Action 2:21-cv-310-JRG (Lead Case)
	§	[REDACTED]
	§	

**PLAINTIFF TQ DELTA'S REPLY BRIEF IN SUPPORT OF ITS
RENEWED MOTION FOR JUDGMENT AS A MATTER OF LAW THAT
DEFENDANTS' ACCUSED PRODUCTS INFRINGE CLAIM 14 OF THE 008 PATENT**

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*Unless otherwise noted, all emphases herein have been added. Internal citations and quotations have been generally omitted.

I. CLAIM 14 OF THE 008 PATENT IS INFRINGED UNDER FUJITSU

CommScope does not dispute that under the *Fujitsu* framework, a product infringes a patent if (i) the patent is standard essential and (ii) the product implements the standard. On the first prong, the Court took away any fact finding role from the jury and put the issue to rest by instructing the jury, without CommScope's objection, that "when the lawyers for both sides stipulate as to the existence of a fact, then *you must*, unless otherwise instructed, accept the stipulation as evidence and *consider the fact as proven*" (3/24/23 Tr. at 25:18-21) and that "[t]he parties have stipulated that ... the '008 Patent ... are standard essential patents or SEPs" (*id.* at 66:25-67:3). *Christian Legal Soc'y Chapter of the Univ. of Cal. v. Martinez*, 561 U.S. 661, 677-78 (2010) ("factual stipulations are 'formal concessions... that have the effect of withdrawing a fact from issue and dispensing wholly with the need for proof of the fact.'"). The stipulation withdrew from issue and dispensed wholly with the need for proof that the 008 Patent is standard essential and, thus, a reasonable jury was not allowed to find otherwise. The Court must decline CommScope's invitation to disregard the stipulation or allow any inference that the jury found that claim 14 of the 008 Patent is not standard essential.

Regarding the second prong, CommScope does not identify any record evidence that the accused products do not implement the VDSL2 standard.

CommScope argues that "Dr. Madisetti failed to prove that claim elements 14[b] and 14[c] correspond with either the VDSL2 standard (specifically with regard to Section 12.3.6.2 and Table 12-70 of the standard) or CommScope's products." Dkt. 549 at p. 3. But, by stipulating that the 008 Patent is standard essential, CommScope conceded that claim elements 14[b] and 14[c] read on all compliant implementations of the VDSL2 standard. If CommScope believed that Dr. Madisetti failed to prove that the 008 Patent is standard essential, CommScope should have sent that issue to the jury. It did not. Instead, CommScope stipulated, without sustained objection or

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qualification, that the 008 Patent is standard essential. The Court should disregard CommScope's argument that Dr. Madisetti failed to prove that the 008 Patent covers the VDSL2 standard.

CommScope attempts to misdirect the Court from the final instructions to an argument it made to the Court on the evening of the fourth day of trial where it attempted to avoid taking a position on standard essentiality (Dkt. 549 at p. 8 (citing Ex. A)) and to a disputed *proposed* jury instruction stating that "the Court is not instructing you that the asserted patents are actually essential to any standard" (Dkt. 549 at p. 9 (citing Ex. C at 36)). But CommScope did not maintain this argument or proposed instruction through the charge conference. Instead, CommScope conceded and the jury was told that the parties stipulated that the 008 Patent is standard essential.

CommScope also mischaracterizes the jury instructions. The Court's instruction at issue did not state that "in the context of the FRAND commitment, the parties agreed that, if damages were incurred for the 008 patent, those damages are limited by FRAND." Instead, the Court unambiguously instructed the jury that "[t]he parties have stipulated that ... the '008 Patent ... are standard essential patents or SEPs." 3/24/23 Tr. at 66:25-67:3. Nothing in this instruction suggests that CommScope was entitled to the upside of standard essentiality (i.e., that the patent is FRAND encumbered) while maintaining that the 008 Patent is not standard essential for purposes of infringement. Indeed, TQ Delta's FRAND obligation only applies to patents that are necessarily infringed by all implementations of the relevant standard. *INVT SPE LLC v. ITC*, 46 F.4th 1361, 1377 (Fed. Cir. 2022) ("Claims are standard essential if . . . all implementations of a standard infringe the claim and the patent covers every possible implementation of a standard.") (citation omitted); 3/17/23 Tr. at 199:2-16 (TQ Delta's FRAND licensing obligation applies only to "patents . . . whose use would be *required to implement* the [VDSL2 standard]"') (quoting Ex. 68).

Because CommScope stipulated that the 008 Patent is standard essential, its prior and

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subsequent arguments that the 008 Patent is not infringed by products that implement the VDSL2 standard are moot. Accordingly, because the only evidence of record (including CommScope's representations to its largest customer) is that the accused products are compliant implementations of the VDSL2 standard, the Court should enter JMOL that the 008 Patent is infringed.

II. THE UNDISPUTED, AND ONLY RELEVANT, EVIDENCE PROVES THAT THE ACCUSED PRODUCTS INFRINGE CLAIM 14

While moot as discussed in Section I, *supra*, CommScope's non-infringement arguments directed to elements 14[b] and 14[c] are unavailing for the additional reasons set forth below.

A. Element 14[b] is Infringed

Claim element 14[b] recites in relevant part "computing a phase shift for each carrier signal." The Court construed this term to mean "computing the amount by which a phase is adjusted for each carrier signal." CommScope argues that the jury was correct in finding non-infringement because the computed phase shift could be zero and a zero degree phase shift would not qualify as an "amount by which a phase is adjusted." But this contradicts the plain meaning of "amount"; no reasonable juror could conclude that zero is not an amount. Further, the second column Table 12-70 of the VDSL2 standard (Ex. 34 at 263), which CommScope concedes to provide non-zero phase shift amounts of $\pi/2$, π , and $3\pi/2$, also lists a zero phase shift as "an angle of rotation." 3/21/23 Tr. at 126:5-15. Dr. Madisetti identified this 0 degree phase shift as one of the phase shift amounts by which a carrier signal is adjusted. *See id.* Accordingly, the unrebutted evidence is that element 14[b] is met, including when one of the possible computed phase shift amounts is zero.

CommScope also argues that the jury was entitled to discount Dr. Madisetti's testimony because Dr. Madisetti did not rely on the actual source code. This is untrue. Dr. Madisetti showed the jury the excerpt of the source code that computes "a phase shift for each carrier signal," as

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required by claim element 14[b], applied the Court’s construction for this term, and explained how the source code computes an amount by which the phase is adjusted, including an amount of 0 degrees. *See* 3/21/2023 Tr. at 126:23-127:16. Further, the excerpt of the Broadcom-authored product specification (“DSL 3 Notes”, Ex. 122) that is acknowledged by CommScope’s brief confirms that the phase scrambling functionality of the Broadcom DSL chips, which is defined by the source code, implements the VDSL2 standard. The jury also heard testimony from Broadcom’s witness, Dr. Yu, who confirmed that the source code correctly implements the phase scrambler defined in Section 12.3.6.2 of the VDSL2 standard and that he had authored the DSL 3 Notes document. 3/20/2023 Tr. at 264:14-266:19 and 269:4-9.

CommScope asserts that “[t]he jury was free to assess the credibility of Dr. Madisetti’s arguments in light of the evidence TQ Delta presented.” Although “the question of the credibility of witnesses is one for the jury alone . . . this does not mean that the jury is at liberty, under the guise of passing upon the credibility of a witness, to disregard his testimony, when from no reasonable point of view is it open to doubt.” *Chesapeake & O. R. Co. v. Martin*, 283 U.S. 209, 216 (1931). CommScope neither elicited impeaching testimony from Dr. Madisetti regarding the source code nor provided its own expert’s testimony contradicting Dr. Madisetti. Accordingly, “from no reasonable point of view is it open to doubt” that the source code computes phase shift amounts for each of the plurality of carrier signals, including a zero phase shift amount when the pseudorandom bit value is 00. Accordingly, the jury was not at liberty to disregard Dr. Madisetti’s testimony as it relates to element 14[b].

B. Element 14[c] is Infringed

CommScope asserts that “Table 12-70 does not combine the phase shift computed for the carrier having the bit value of 0, 0 with the phase characteristic for that bit value because the original coordinate (X, Y) is the same as the final coordinate (X, Y).” Dkt. No. 549 at 7.

CommScope's argument contradicts the VDSL2 standard. Table 12-70 of the VDSL2 standard states that "each subcarrier shall be pseudo-randomly rotated by 0, $\pi/2$, π or $3\pi/2$ depending on the value of a 2-bit pseudo-random number." *Id.* at 3-4. The possible 2-bit values are (0,0), (0,1), (1,1) and (1,0). Contrary to CommScope's assertion, the VDSL2 standard requires adjusting the phase characteristic by the "amount of rotation" listed in column 2 of Table 12-70, *i.e.*, combining the computed phase shift with the phase characteristic, including when the bit value is (0,0).

Commscope also incorrectly argues that because the VDSL2 standard states that "subcarrier with index 0 (DC) shall not be rotated," Section 12.3.6.2 fails to combine the phase shift computed for each respective carrier signal. As explained in TQ Delta's opening brief (Dkt. 539 at 8-10), however, the DC carrier is not one of "the plurality of carrier signals for modulating a bit stream" and, thus, the fact that it is not rotated does not bear on infringement. CommScope brushes this off as attorney argument andmischaracterizes the record. Dr. Madisetti testified that the carrier signals identified in Table 12-68 are the claimed "plurality of carrier signals for modulating a bit stream, wherein each carrier signal has a phase characteristic associated with the bit stream," and that the DC carrier is not one of them. 3/21/23 Tr. at 118:19-119:3, 119:23-120:7, 120:14-121:21, and 168:8-20. CommScope's assertions to the contrary are purely attorney argument given that CommScope did not put on any infringement rebuttal expert for the 008 Patent.

III. CONCLUSION

CommScope contends that the jury had a legally sufficient evidentiary basis to find that the Accused Products do not infringe claim elements 14[b] and 14[c] of the 008 Patent. This is wrong but, in any event, any such evidence amounted to naught once the jury was instructed that the 008 Patent is standard essential. The Court should grant TQ Delta's JMOL of infringement of the 008 Patent and order a new trial to determine the quantum of damages for this infringement.

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CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing document and all attachments thereto are being filed electronically in compliance with Local Rule CV-5(a). As such, this document is being served this June 22, 2023 on all counsel of record, each of whom is deemed to have consented to electronic service. L.R. CV-5(a)(3)(A).

/ /s/ Peter J. McAndrews
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